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(54) **LIQUID DISCHARGE APPARATUS, CONTROL METHOD OF LIQUID DISCHARGE APPARATUS, AND CONTROL PROGRAM OF LIQUID DISCHARGE APPARATUS**

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(58) **Field of Classification Search**

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See application file for complete search history.

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(57) **ABSTRACT**

A liquid discharge apparatus includes a discharge unit including a piezoelectric element that is displaced in response to a drive signal, a pressure chamber of which an inner pressure is increased or decreased by the piezoelectric element, and a nozzle which is in communication with the pressure chamber and discharges liquid filling the pressure chamber, depending on an increase or a decrease in the inner pressure of the pressure chamber, a detection unit that detects residual vibration occurring in the discharge unit according to a potential change of the drive signal that is supplied to the piezoelectric element, and a determination unit that determines a discharge state, in which the detection unit outputs a first detection signal and a second detection signal, and the determination unit determines the discharge state, based on the first detection signal and the second detection signal.

9 Claims, 17 Drawing Sheets